# A new species of *Brachymeles* (Reptilia: Scincidae) from Catanduanes Island, Philippines

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Abstract. — A new scincid lizard, Brachymeles minimus, is described from Catanduanes Island, Philippines. It differs from known species, other than Brachymeles vermis and B. apus, in the absence of external limbs. Brachymeles minimus differs from B. vermis and B. apus in its smaller size, lower dorsal scale row count, and pattern of head shields.

Catanduanes, an island of low mountain terrain and about 1450 sq. km in area, lies slightly less than 10 km off the southeast coast of Luzon Island. Until recently, published information on its herpetofauna was limited to three species, one crocodile, one lizard, and one snake. Ross & Gonzales (1992), following a survey of the island in 1990, reported a total of 58 species; 13 amphibians, 27 lizards, 17 snakes, and one crocodile. They described one amphibian, Kaloula kokacii as new, and list two lizards Brachymeles sp., Gonocephalus sp., and one snake, Oxyrhabdium sp., as being based on specimens not readily assignable to any known species.

Recently, while identifying some *Brachy*meles from other Philippine islands, we also examined the specimens of the unidentified Catanduanes' *Brachymeles*. A sample of four specimens are now available. These, indeed, represent a previously undescribed taxon, the description of which is the subject of this paper.

## Materials and Methods

Materials examined include examples of all 14 previously described species of the genus *Brachymeles* as well as the four known examples of the new species.

Measurements were determined to the nearest 0.1 mm, using a Helios dial caliper. In addition to snout-vent length (SVL), other measurements include head breadth (HB), made at the widest point; snout length (SnL) from anterior corner of eye to tip of snout; and eye diameter (ED) from anterior to posterior corner of the eye. Midbody scale counts (MBSR) were made about halfway between the tip of the snout and the vent, and the dorsal scale count (DSR) from the parietals to the transverse row opposite the vent. Standard nomenclature for headshields in the Scincidae is followed (Boulenger 1890, Smith 1935, Brown & Alcala 1980).

## Brachymeles minimus, new species Fig. 1

*Holotype.*—FMNH 247990, a male (apparently mature based on hemipenes), collected in original forest at 600 m on Mt. Tungaw-tungaw (13°40'N, 124°21'E), about four km west of Gigmoto, Catanduanes Prov., Catanduanes Island, by the junior author on 18 June 1991. MBSR 22; DSR 94; ED 1.2 mm; SvL 64.0 mm; SnL 2.4 mm; HB 4.1 mm.

Paratypes (3): FMNH 247991, 250817, CAS 182569 (same locality as holotype)

Diagnosis. – A small Brachymeles, 56.3 and 64.0 mm for two (apparently mature) males; MBSR 22; DSR 94–102; no external vestige of limbs; no ear opening; frontoparietals in moderate to broad contact; eye relatively large, ED 43–50% of SnL.

Description (based on four specimens). -A small slender Brachymeles, SVL 56.3 and 64.0 mm for two males and 38.4 and 48.5 mm for two apparent juveniles; HB 6.4-8.2% of SVL: SnL 53.5-58.5% of HB; eve large, ED 43-50% of SnL and 23.3-29.3% of HB: rostral broader than high, having narrow contact with prefrontal; supranasals large, narrowly separated at midline; frontonasal broader than long; prefrontals narrow, narrowly separated at midline; frontal about as broad as long, in contact with two anterior supraoculars; five supraoculars, separated from eve by five or six superciliaries: frontoparietals in relatively broad contact; interparietal large; parietals in contact: one pair of narrow nuchals (Fig. 1); no postnasal: anterior loreal larger than posterior, in contact with first and second upper labials; six upper labials, anterior largest and fourth beneath center of eve; six lower labials: pair of contacting shields behind postmental; no vestige of ear opening; 22 MBSR; 94-102 DSR between parietals and base of tail; no external vestiges of fore or hind limbs (Table 1).

*Color* (in preservative).—Dorsum light brown to chocolate brown, (holotype lightest in color); ventral surface almost same

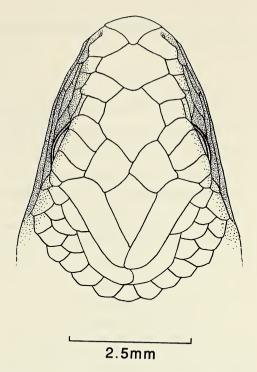


Fig. 1. Brachymeles minimus. Pattern of dorsal head shields, FMNH 247991, paratype.

color as dorsum for the holotype, but somewhat more grayish brown in paratypes. This color pattern results from the pale margins of the ventral scales.

Habitat note. – Specimens were found beneath decaying logs and rocks lying in the duff of original forest at 600 m elevation.

Range. – Known only from the type locality on Catanduanes Island.

Table 1.—Scale counts and other	pertinent characters for	Brachymeles minimus,	vermis, apus, and samarensis.

Species	SVL (mm) adults	DSR	MBSR	Number of super- ciliaries		parietals Separate	ED SnL	HB SVL	External limbs
B. minimus	56.3–64.0 (2)	94–102 (4)	22 (4)	6	х		43-50%	8.3%	None
B. vermis	61.0–76.0 (4)	104–109 (6)	22–23 (6)	2		х	35-44%	2.2-3.3%	None
B. apus	119–131 (2)	108–113 (6)	22–24 (6)	2		x	35%	5.7%	None
B. samarensis	55.6–65.2 (14)	87–96 (19)	22–24 (19)	6	х		25-33%	6.5-8.3%	Short Stubs

*Etymology.*—From the Latin *minimus,* meaning small.

#### Discussion

Skinks of the genus *Brachymeles*, popularly referred to as burrowing lizards, are rarely if ever seen except when one looks beneath the duff, rotting logs, or in top soil. In association with adaptation to these subterranean habitats, the species of this genus exhibit a remarkable series of limb reduction stages (from relatively short, pentadactyl limbs to complete absence of external limb structures), and correlated body elongation and attenuation stages. For a discussion of limb loss in lizards, see Greer (1989) and Greer & Cogger (1985).

Of the 15 known species of *Brakhymeles*, 14 are from the Philippines (Brown & Alcala 1980) and one from Borneo (Hikada 1982). Five of the 15 species (*bicolor*, *boulengeri*, gracilis, schadenbergi, and talinis) are pentadactyl, but the limbs and digits are short. Seven of the species (*bonitae*, cebuensis, elerae, pathfinderi, samarensis, tridactylus, and wrighti) exhibit further reduction of the limbs and loss of digits ranging from one on either the fore or hind limbs to four or all five on both fore and hind limbs. The remaining three species (*apus*, vermis, and minimus) have lost all vestiges of external limbs.

Brachymeles minimus differs from the other limbless species (apus and vermis) in the smaller size and lower count for DSR (Table 1). It also differs from these two species in the pattern of the head shields: (1) frontoparietals large, in contact (separated for apus and vermis) and (2) five or six superciliaries (two beneath anterior supraoculars for apus and vermis), Table 1 and Fig. 1. Brachymeles minimus is most similar to B. samarensis in the pattern of the headshield arrangement. Both species have: (1) the fronto-parietals in contact, (2) five supraoculars, (3) a pair of narrow nuchals, and (4) lack a postnasal. Brachymeles minimus differs from B. samarensis in the complete absence of external limb structures, the number of dorsal scale rows, and the slightly larger eye relative to snout length (Table 1).

The evidence from scale counts and patterns of head-shield development suggests that *apus* and *vermis* may be the end products of a different evolutionary branch than that from which *minimus* is derived. A phylogenetic study, using additional lines of evidence to those presently available, is very much needed to clarify relationships within this genus.

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